

CONTENTS OF VOLUME 4

NUMBER 1

Articles

GERARD JEAN MARTIN, DOMINIQUE ODIOT, VALÉRIE GODINEAU, NORBERT NAULET, RENÉ MORLAT, CHRISTIAN ASSELIN and JACQUELINE ROBICHEZ: Natural isotope tracers and water filiation in the vine ecosystem.....	1
JIAMO FU and SHENG GUOYING: Biological marker composition of typical source rocks and related crude oils of terrestrial origin in The People's Republic of China: a review	13
ANDY DAVIS and DANIEL ASHENBERG: The aqueous geochemistry of the Berkeley Pit, Butte, Montana, U.S.A.	23
JACQUES BOULÈGUE, MARC BENEDETTI and PIERRE BILDGEN: Geochemistry of waters associated with current karst bauxite formation, southern peninsula of Haiti.....	37
DAVID CURTIS, TIMOTHY BENJAMIN, ALEXANDER GANCARZ, ROBERT LOSS, KEVIN ROSMAN, JOHN DELAETER, JAMES E. DELMORE and WILLIAM J. MAECK: Fission product retention in the Oklo natural fission reactors	49
ROBERT W. PULS, L. L. AMES and J. E. McGARRAH: The use of batch tests as a screening tool for radionuclide sorption characterization studies, Hanford, Washington, U.S.A.	63
J. M. McARTHUR, J. TURNER, W. B. LYONS and M. F. THIRLWALL: Salt sources and water-rock interaction on the Yilgarn Block, Australia: isotopic and major element tracers.....	79
THOMAS A. CLAIR, H. P. SCHWARCZ and J. R. KRAMER: The origins of sulfur in waters from four Nova Scotian basins, Canada.....	93
P. ÖSTLUND, R. CARMAN, U. G. EDWARDSSON and L. HALLSTADIUS: Sterilization of sediments by ionizing radiation.....	99
Book Review	
A. A. LEVINSON: "Great Glen. Regional Geochemical Atlas"	105
Papers to appear in forthcoming issues.....	107
IAGC application form	1

NUMBER 2

Articles

ALFRED V. HIRNER and GRAEME L. LYON: Stable isotope geochemistry of crude oils and of possible source rocks from New Zealand—1: carbon	109
ALFRED V. HIRNER and BRIAN W. ROBINSON: Stable isotope geochemistry of crude oils and of possible source rocks from New Zealand—2: sulfur	121
PER KRISTIAN EGEBERG and PER AAGAARD: Origin and evolution of formation waters from oil fields on the Norwegian shelf.....	131

JEAN-PIERRE GATELLIER and JEAN-ROBERT DISNAR: Organic matter and gold-ore association in a hydrothermal deposit, France	143
W. PÜTTMANN, C. MERZ and S. SPECZIK: The secondary oxidation of organic material and its influence on Kupferschiefer mineralization of southwest Poland	151
K. V. TICKNOR, T. T. VANDERGRAAF and D. C. KAMINENI: Radionuclide sorption on primary and fracture-filling minerals from the East Bull Lake pluton, Massey, Ontario, Canada.....	163
B. J. SZABO and J. N. ROSHOLT: Uranium-series nuclides in the Golden fault, Colorado, U.S.A.: dating latest fault displacement and measuring recent uptake of radionuclides by fault-zone materials ..	177
H. KUNZENDORF, R. GWODZDZ, G. P. GLASBY, P. STOFFERS and R. M. RENNER: The distribution of rare earth elements in manganese micronodules and sediments from the equatorial and southwest Pacific	183
M. GÉLINEAU, R. CARIGNAN and A. TESSIER: Study of the transit of sulfate in a Canadian Shield lake watershed with stable oxygen isotope ratios.....	195
RONALD FUGE: Iodine in waters: possible links with endemic goitre.....	203
Papers to appear in forthcoming issues.....	209
IAGC application form	I

NUMBER 3

First International Workshop on Fossil Bone

**Proceedings of the Conference held at Oxford University,
Oxford, U.K., 18–21 July 1988**

Co-convenors: H. P. Schwarcz, R. E. M. Hedges and M. Ivanovich

HENRY P. SCHWARCZ, ROBERT E. M. HEDGES and MIRO IVANOVICH: Editorial comments on the First International Workshop on Fossil Bone	211
A. NEIL GARLAND: Microscopical analysis of fossil bone.....	215
S. WEINER, W. TRAUB, H. ELSTER and M. J. DENIRO: The molecular structure of bone and its relation to diagenesis	231
HEINRICH NEWESELY: Fossil bone apatite	233
C. T. WILLIAMS: Trace elements in fossil bone.....	247
R. E. M. HEDGES and I. A. LAW: The radiocarbon dating of bone	249
NOREEN TUROSS: Albumin preservation in the Taima-taima mastodon skeleton	255
N. TUROSS, A. K. BEHRENSMEYER, E. D. EANES, L. W. FISHER and P. E. HARE: Molecular preservation and crystallographic alterations in a weathering sequence of wildebeest bones.....	261
G. J. VAN KLINKEN: Note on the isolation of single amino acids from fossil bone.....	271
HERMANN PIEPENBRINK: Examples of chemical changes during fossilisation.....	273
MARGARET J. SCHOENINGER, KATHERINE M. MOORE, MATTHEW L. MURRAY and JOHN D. KINGSTON: Detection of bone preservation in archaeological and fossil samples	281

GISELA GRUPE and HERMANN PIEPENBRINK: Impact of microbial activity on trace element concentrations in excavated bones	293
GISELA GRUPE, HERMANN PIEPENBRINK and MARGARET J. SCHOENINGER: Note on microbial influence on stable carbon and nitrogen isotopes in bone	299
E. M. JOPE and MARGARET JOPE: Note on collagen molecular preservation in an 11 ka old <i>Megaceros</i> (Giant Deer) antler: solubilization in a non-aqueous medium (anhydrous formic acid)	301
F. DONALD PATE, JOHN T. HUTTON and KEITH NORRISH: Ionic exchange between soil solution and bone: toward a predictive model	303
BOAZ LUZ and YEHOOSHUA KOLODNY: Oxygen isotope variation in bone phosphate	317
J. L. BADA, B. HERRMANN, I. L. PAYAN and E. H. MAN: Amino acid racemization in bone and the boiling of the German Emperor Lothar I	325
HENRY P. SCHWARCZ and RAINER GRÜN: ESR dating of tooth enamel from prehistoric archaeological sites	329
ANGELA RAE, ROBERT E. M. HEDGES and MIRO IVANOVICH: Further studies for uranium-series dating of fossil bone	331
J. VAN DER PLICHT, A. VAN DER WIJK and G. J. BARTSTRA: Uranium and thorium in fossil bones: activity ratios and dating	339
List of Participants	343
Papers to appear in forthcoming issues	345
IAGC application form	1

NUMBER 4

Articles

RAYMOND M. COVENY, JR and MICHAEL D. GLASCOCK: A review of the origins of metal-rich Pennsylvanian black shales, central U.S.A., with an inferred role for basinal brines	347
A. L. KOVALEVSKII and O. M. KOVALEVSKAYA: Biogeochemical haloes of gold in various species and parts of plants	369
M. J. DEKKERS, S. P. VRIEND, C. H. VAN DER WEIJDEN and P. F. M. VAN GAANS: Uranium anomaly evaluation in groundwaters: a hydrogeochemical study in the Nisa region, Portugal	375
HARRY H. POSEY and R. STEPHEN FISHER: A sulfur and strontium isotopic investigation of Lower Permian anhydrite, Palo Duro Basin, Texas, U.S.A.	395
A. BOLDRIN, M. JURAČIĆ, L. MENEGAZZO VITTURI, S. RABITTI and G. RAMPAZZO: Geochemical considerations on trace element distributions in suspended matter and sediments at the river-sea interface, Adige River mouth, northern Adriatic Sea.....	409
MARSHA I. SHEPPARD, D. H. THIBAULT and P. A. SMITH: Iodine dispersion and effects on groundwater chemistry following a release to a peat bog, Manitoba, Canada	423

Book Review

COLIN E. DUNN: "Biogeochemical Exploration for Mineral Deposits"	433
------------------------------------------------------------------------	-----

Papers to appear in forthcoming issues.....	435
IAGC application form	I
NUMBER 5	
Articles	
K. I. LUKASHEV and M. P. ONOSHO: Human impact upon nitrogen geochemistry in landscapes of Byelorussia, USSR	437
JOHN J. RAMPE and DONALD D. RUNNELLS: Contamination of water and sediment in a desert stream by metals from an abandoned gold mine and mill, Eureka District, Arizona, U.S.A.....	445
R. STEPHEN FISHER, HARRY H. POSEY and J. RICHARD KYLE: Successive pore fluid generations in a Lower Permian brine aquifer, Palo Duro Basin, Texas Panhandle, U.S.A.....	455
GIOVANNI CHIODINI and ROBERTO CIONI: Gas geobarometry for hydrothermal systems and its application to some Italian geothermal areas	465
STEN LINDBLOM, ANDREW H. RANKIN and MICHAEL THOMPSON: Fluid inclusion composition of Baltic Shield quartz associated with mineralization, Sweden.....	473
N. W. BRAND, S. H. BOTTRELL and M. F. MILLER: Concentrations of reduced sulphur in inclusion fluids associated with black shale hosted quartz vein gold deposits: implications for mechanisms of transport and deposition of gold and a possible exploration tool.....	483
JAMES M. THOMAS, ALAN H. WELCH and ALAN M. PREISSLER: Geochemical evolution of ground water in Smith Creek Valley—a hydrologically closed basin in central Nevada, U.S.A.	493
W. PROCHASKA: Geochemistry and genesis of Austrian talc deposits	511
A. G. LATHAM and H. P. SCHWARCZ: Review of the modelling of radionuclide transport from U-series disequilibria and of its use in assessing the safe disposal of nuclear waste in crystalline rock	527
Book Review	
BRIAN HITCHON: "Geochemistry and Mineral Formation in the Earth Surface".....	539
Papers to appear in forthcoming issues	541
IAGC application form	I

NUMBER 6	
OLEH WERES, ABDUR-RAHIM JAOUNI and LEON TSAO: The distribution, speciation and geochemical cycling of selenium in a sedimentary environment, Kesterson Reservoir, California, U.S.A	543
DAVID L. NAFTZ and JAMES A. RICE: Geochemical processes controlling selenium in ground water after mining, Powder River Basin, Wyoming, U.S.A.....	565
M. GASCOYNE: High levels of uranium and radium in groundwaters at Canada's Underground Research Laboratory, Lac du Bonnet, Manitoba, Canada	577
AARON BARKATT, E. E. SAAD, R. ADIGA, W. SOUSANPOUR, AL BARKATT, M. A. ADEL-HADADI, J. A. O'KEEFE and S. ALTERESCU: Leaching of natural and nuclear waste glasses in sea water	593
LYNDA B. WILLIAMS, RAY E. FERRELL JR, ELIZABETH W. CHINN and ROGER SASSEN: Fixed-ammonium in clays associated with crude oils	605

MORDECKAI MAGARITZ, MONA WELLS, ABRAHAM J. AMIEL and DANIEL RONEN: Application of a multi-layer sampler based on the dialysis cell technique for the study of trace metals in groundwater	617
RIFFAT M. QURESHI, RAMON ARAVENA, PETER FRITZ and ROBERT DRIMMIE: The CO ₂ absorption method as an alternative to benzene synthesis method for ¹⁴ C dating.....	625
M. NIYAZI GUNDOGDU, CHANTAL BONNOT-COURTOIS and NORBERT CLAUER: Isotopic and chemical signatures of sedimentary smectite and diagenetic clinoptilolite of a lacustrine Neogene basin near Bigadic, western Turkey	635
Corrigendum	645
Papers to appear in forthcoming issues	647
IAGC application form	i
Indexes to Volume 4.....	I